

PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number: 14624-004001
	Application Number 10/763,390	Filed January 26, 2004
	First Named Inventor Holger Schlueter et al.	
	Art Unit 2828	Examiner Tod Thomas Van Roy
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a Notice of Appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <p><input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> attorney or agent of record <u>45,653</u> (Reg. No.)</p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.</p>		
<p><input checked="" type="checkbox"/> Total of 1 form is submitted.</p>		

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Holger Schlueter et al.	Art Unit :	2828
Serial No. :	10/763,390	Examiner :	Tod Thomas Van Roy
Filed :	January 26, 2004	Conf. No. :	4590
Title :	FIBER LASER		

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Pursuant to United States Patent and Trademark Office OG Notices: 12 July 2005 – New Pre-Appeal Brief Conference Pilot Program, a request for a review of identified matters on appeal is transmitted with the Notice of Appeal. Review of these identified matters by a panel of examiners is requested because the rejections of record are clearly not proper and are without basis, in view of a clear legal or factual deficiency in the rejections. All rights to address additional matters on appeal in any subsequent appeal brief are reserved.

Claims 1 and 4-30 are pending, with claims 1 and 30 being independent.

Claims 1, 4-11, and 25-30 have been rejected as being unpatentable over U.S. Patent No. 6,970,631 (Arbore); claims 12-14 and 18 have been rejected as being unpatentable over Arbore in view of U.S. Patent No. 6,954,575 (Fermann); claims 15-17 have been rejected as being unpatentable over Arbore in view of U.S. Patent No. 6,445,838 (Caracci); claims 19 and 20 have been rejected as being unpatentable over Arbore in view of U.S. Patent No. 5,774,484 (Wyatt); and claims 21-24 have been rejected as being unpatentable over Arbore in view of U.S. Publication No. 2002/0018287 (Zellmer). Applicant requests withdrawal of these rejections.

Applicant specifically asks the panel to review the issues highlighted below.

Arbore does not describe or suggest an active region having a sufficiently small transverse dimension such that less than about 10% of the radiation produced at the characteristic wavelength in the active region is confined to the active region, as recited in claims 1 and 30.

Arbore relates to a fiber amplifier 10 having an active core 12 that is surrounded by a depressed cladding 14. See Arbore at col. 5, lines 28-36 and Fig. 1. The active core 12 is doped with an active material 18 that is a lasing medium. See Arbore at col. 5, lines 48-58 and Fig. 1.

The lasing medium produces radiation at a first wavelength λ_1 in the active core 12. See Arbore at col. 5, lines 58-63 and Fig. 1. However, the transverse dimension of Arbore's active core 12 is not sufficiently small such that less than about 10% of this radiation is confined to the active core 12. Rather, at least about 70%* of the radiation in the guided fundamental core mode 24 at the first wavelength λ_1 is substantially confined to the active core 12.

Realizing this deficiency, the Examiner states that it "would have been obvious to one of ordinary skill in the art ... to select a confinement in this range as it has [sic] been found to be within the skill of a general worker in the art to discover the optimum or workable range" (referencing MPEP §2144.05 II.A.). Applicant disagrees.

First, Arbore's fiber amplifier 10 is designed to increase gain of a desired mode in the active region and to reduce coupling between the core mode 24 and the cladding mode 26 to increase confinement of radiation to the active core 12. See Arbore at col. 5, line 67 to col. 6, line 14 and Fig. 1. Thus, Arbore provides that the optimum range is as much radiation confined to the active core 12 as possible (for example, as shown in Fig. 1 of Arbore, at least 70%). This is contrary to the features of claims 1 and 30, which provide that less than 10% of the radiation is confined to the active region. Accordingly, Arbore teaches away from less than 10% confinement.

Second, the proposed modification of Arbore would change the principle of operation of Arbore. Arbore explains at col. 6, lines 25-39 that at least about 70% of the radiation at the first wavelength λ_1 should be confined to the active core 12 and Arbore designs the fiber amplifier 10 (in particular, the index profile 22A) to produce such confinement: "In a preferred embodiment, index profile 22A is engineered to have a fundamental mode cutoff wavelength λ_c such that radiation in fundamental mode 24 at wavelengths smaller than λ_c (such as λ_1) is retained in core 12...." Thus, any modification of Arbore to provide for less than 10% radiation in the active core 12 would require a redesign of the fiber amplifier 10, including substantially changing the relative size of the active core 12 and the index profile 22A.

* While the Examiner suggests that Fig. 1 shows that about 50% of the radiation in Arbore's fiber amplifier 10 is confined to the active core 12, this is incorrect. At least 70% (and possibly more) of the radiation in the core mode 24 is confined to the active core 12.

In the Response to Arguments section, the Examiner states that "[s]ince the modes would remain orthogonal in the ideal case, a reduction of the confinement of the mode to the core region would not entail any coupling to the cladding mode" and that somehow, because of this, "the coupling would no longer be a problem, and one would be free to choose the optimal amount of confinement to the core as they saw fit." However, this argument is contrary to Arbore's invention, which attempts to increase gain at the first wavelength λ_1 by reducing, as much as possible, the coupling or overlap between the core mode 24 and the cladding mode 26. See Arbore at col. 5, line 58 to col. 38 and Fig. 1.

In summary, Arbore's teachings would lead the ordinarily skilled artisan away from, rather than toward, the subject matter of the claims. Accordingly, claims 1 and 30 are allowable over Arbore, as are dependent claims 4-11, and 25-29. Claims 12-24 depend from claim 1, and are allowable for at least the reasons discussed in the reply of June 5, 2006, that is, Fermann, Caracci, Wyatt, and Zellmer do not remedy the failure of Arbore to describe or suggest the above-mentioned features.

The fees in the amount of \$1520 for the three-month extension of time (\$1,020) and the appeal fee (\$500) are being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: February 8, 2007

/Diana DiBerardino/

Diana DiBerardino

Reg. No. 45,653

Fish & Richardson P.C.
1425 K Street, N.W.
11th Floor
Washington, DC 20005-3500
Telephone: (202) 783-5070
Facsimile: (202) 783-2331